

## Type 2 DM – Insulin

**STEP 1:** Target Fasting Plasma Glucose with **Basal insulin**  
Fasting Plasma Glucose (FPG) Target = 70-130mg/dl

HS NPH or Long Acting insulin – start 10 units or 0.2 units/kg



Increase dose 2 units every 3 days until FPG is 70 - 130mg/dl

May increase by 4 units every 3 days if FPG is > 180mg/dl

**STEP 2:** Target Pre-Meal Glucose (target one at a time)  
Premeal Glucose Target = 70-130mg/dl

If Pre-lunch glucose > 130mg/dl  
Start 4 units Bolus Insulin before breakfast



Increase Bolus Insulin by 2 units every 3 days

If Pre-supper glucose > 130mg/dl  
Start 4 units Bolus Insulin before lunch  
OR Add/Increase morning NPH



*As insulin doses get larger, (over 10 units), begin to change insulin dose by 10-20%*

If Bedtime glucose > 140mg/dl  
Start 4 units Bolus Insulin before supper  
OR Increase evening NPH



**STEP 3:** If A1c not at goal: Target Post-Prandial Glucose with **Bolus** premeal insulin  
2 Hour Post-Prandial Glucose Target <160-180mg/dl

Ref: Nathan, Buse, Davidson, et al. Management of Hyperglycemia in Type 2 Diabetes: a Consensus Algorithm for the Initiation and Adjustment of Therapy. (2006). Diabetes Care 28, 1963-1972

## Type 2 DM – Insulin

### Basal Insulin – longer acting insulin

Insulin	Onset	Peak	Duration
<b>Basal Insulin - Intermediate Acting Insulin</b>			
NPH (Humulin N ®, Novolin N ®)	1-3 hours	6-10 hours	12-20 hours
<b>Basal Insulin – Long Acting Insulin</b>			
<i>Glargine (Lantus ®)</i>	1 hour	None	24 hours
<i>Levemir (Detemir ®)</i>	1 hour	None	12-24 hours

### Bolus Insulin – shorter acting insulin

Insulin	Onset	Peak	Duration
<b>Bolus Insulin – Rapid and Short Acting Insulin</b>			
<i>Lispro (Humalog ®)</i> <i>Aspart (Novolog ®)</i> <i>Glulisine (Apidra ®)</i>	15-30 min	30-90 min	3-5 hours
Regular (Humulin R ®, Novolin R ®)	30-60 min	1-2 hours	5-8 hours

### Premixed Insulin – longer and shorter acting

Use **ONLY** if the patient cannot mix insulin

Insulin	Onset	Peak	Duration
<b>Mixed Insulins</b>			
Humulin, Novolin, Novolog 70/30	30 min	2-4 hours	14-24 hours
<i>Humulin 50/50</i>	30 min	2-5 hours	18-24 hours
<i>Humalog 75/25</i>	15 min	½-2½ hrs	16-20 hours

Drugs names in *italics* are not on the National Core Formulary